UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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2164	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>26 November 2003</u>.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-23</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-23</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>26 November 2003</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date <u>01/26/2005</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   This action is in response to Application filed on 11/26/2003.

2.   Claims 1-23 are pending.

Information Disclosure Statement

3.   The Information Disclosure Statement (IDS) filed by Applicant on 01/26/2005 has been

received and considered. A copy of the reviewed IDS is enclosed with the office action.

Double Patenting

4.   The nonstatutory double patenting rejection is based on a judicially created doctrine

grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or

improper timewise extension of the "right to exclude" granted by a patent and to prevent possible

harassment by multiple assignees.   A nonstatutory obviousness-type double patenting rejection

is appropriate where the conflicting claims are not identical, but at least one examined

application claim is not patentably distinct from the reference claim(s) because the examined

application claim is either anticipated by, or would have been obvious over, the reference

claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re*

Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225

USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re*

Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163

USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may

be used to overcome an actual or provisional rejection based on a nonstatutory double patenting

ground provided the conflicting application or patent either is shown to be commonly owned

with this application, or claims an invention made as a result of activities undertaken within the

scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal

disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR

3.73(b).

5.   Claims 1-5, 7-12 and 14-20 are provisionally rejected on the ground of nonstatutory

obviousness-type double patenting as being unpatentable over claims 1-2, 4-9, 11-16 and 18-21

of copending Application No. 10/723,729 in view of Richard et al. (Publication No US

2005/0015461).

Claimed invention of copending Application No. 10/723,729 recites every limitation of

claims 1-5, 7-12 and 14-20 of the instant application except the following limitations: "detect an

operation to modify an identity of a first file stored on said storage device" (claims 1, 8 and 15)

and "wherein said operation corresponds to a file create operation, a file delete operation, a file

rename operation, or a file copy operation" (claims 2, 9 and 16).

Richard et al. teach:

"detect an operation to modify an identity of a first file stored on said storage device"

(see [0104]), and

"wherein said operation corresponds to a file.create operation, a file delete operation, a

file rename operation, or a file copy operation" (see [0104]).

It would have been obvious to a person having ordinary skill in the art at the time the

invention was made to have modified copending Application by the teaching of Richard et al.,

since adding the feature for detecting an operation to modify an identity of a file wherein the

operation corresponds to a file create operation, a file delete operation, a file rename operation,

or a file copy operation provides a more effective way to monitor and manage files in a file

system.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 101

6.   35 U.S.C. 101 reads as follows: ·

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions
and requirements of this title.

7.   Claims 15-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed

to non-statutory subject matter.

Regarding claim 15, the "computer-accessible medium" is not limited to tangible media

in accordance with Applicant's specification (see page 9), which states that it may include an

electromagnetic signal, not in and of itself a tangible medium. Note that amending claim 15 to

recite – computer storage or memory medium – would overcome this rejection.

Claims 16-20 are rejected as incorporating the deficiencies of claim 15 upon which they

depend.

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9.   Claims 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Santry et al.

("Deciding When to Forget in the Elephant File System", ACM: 1999).

As to claim 21, Santry et al. teach:

"A system" (see Abstract and [page 111, column 1, paragraph 4]), comprising:

"a storage device configured to stored a plurality of files" (see [page 111, column 1,

paragraphs 2-4]); and

"a file system configured to manage access to said storage device, wherein said file

system is further configured to determine a file lineage relationship between a first file and a

second file" (see [page 111, column 1, paragraph 5] for managing access to files in a storage

device; see [page 111, column 2, paragraph 9] and [page 112, column 2, paragraph 10-12]

wherein the disclosure of maintaining a long-terms history of important versions and naming of

file versions indicate a file lineage relationship between different versions as illustrated in

Applicant's claim language; also see [page 114, column 2, paragraphs 1-2]).

As to claim 22, this claim is rejected based on arguments given above for rejected claim

21 and is similarly rejected including the following:

Santry et al. teach:

"wherein determining said file lineage relationship comprises determining whether said

first file and said second file are members of the same lineage pool" (see [page 114, column 1,

paragraph 7], [page 114, column 2, paragraphs 1-2] and [page 115, column 1, paragraph 5-6]

wherein inode log storing versions of a file as an ordered list of inodes is equivalent to

Applicant's "lineage pool").

As to claim 23, this claim is rejected based on arguments given above for rejected claim

21 and is similarly rejected including the following:

Santry et al. teach:

"wherein determining said file lineage relationship comprises determining whether said

first file is an ancestor of said second file" (see [page 115, column 1, paragraph 5] wherein the

disclosure of linking in chronological order suggests the ability to determine if one version (or

file) is an ancestor of another version (or file), as illustrated in Applicant's claim language).

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth
> in section 102 of this title, if the differences between the subject matter sought to be patented and the prior
> art are such that the subject matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

11.   Claims 1- 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richard et al.

(Publication No US 2005/0015461) and further in view of Vogels ("File System Usage in

Windows NT 4.0", ACM Press: 1999).

        As to claim 1, Richard et al. teach:

"A system" (see Abstract), comprising:

        "a storage device configured to store a plurality of files" (see Abstract and [0043]); and

        "a file system configured to manage access to said storage device" (see [0043]), wherein

said file system is configured to:

        "detect an operation to modify an identity of a first file stored on said storage device"

(see [0104] wherein "rename" operation is an operation to modify an identity of a file).

Richard et al. do not teach "subsequent to detecting said operation, store a record of said operation associated with said first file, wherein said record includes a signature corresponding to said first file".

Vogels teaches "subsequent to detecting said operation, store a record of said operation associated with said first file, wherein said record includes a signature corresponding to said first file" (see [page 95, column 2, paragraph 4] for the disclosure of recording all file access operations which must include detecting an access operation and storing a record about the operation; see [page 95, column 1, paragraph 1] wherein "a reference to the file object" is equivalent to Applicant's "signature corresponding to said first file").

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Richard et al. by the teaching of Vogels, since adding the feature of storing a record of an operation subsequent to detect it provide a way to trace file system activities. As a result, it helps to manage files in a file system more effectively.

As to claim 8, Richard et al. teach:

"A method" (see Abstract), comprising:

"storing a plurality of files" (see Abstract and [0043]); and

"detecting an operation to modify an identity of a first stored file" (see [0104] wherein "rename" operation is an operation to modify an identity of a file).

Richard et al. do not teach "subsequent to detecting said operation, storing a record of said operation associated with said first stored file, wherein said record includes a signature corresponding to said first stored file".

Vogels teaches "subsequent to detecting said operation, storing a record of said operation associated with said first stored file, wherein said record includes a signature corresponding to said first stored file" (see [page 95, column 2, paragraph 4] for the disclosure of recording all file access operations which must include detecting an access operation and storing a record about the operation; see [page 95, column 1, paragraph 1] wherein "a reference to the file object" is equivalent to Applicant's "signature corresponding to said first file").

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Richard et al. by the teaching of Vogels, since adding the feature of storing a record of an operation subsequent to detect it provide a way to trace file system activities. As a result, it helps to manage files in a file system more effectively.

As to claim 15, Richard et al. teach:

"A computer-accessible medium comprising program instruction, wherein the program instructions are computer-executable to" (see Abstract):

"store a plurality of files" (see Abstract and [0043]); and

"detect an operation to modify an identity of a first stored file" (see [0104] wherein "rename" operation is an operation to modify an identity of a file).

Richard et al. do not teach "subsequent to detecting said operation, store a record of said operation associated with said first stored file, wherein said record includes a signature corresponding to said first stored file".

Vogels teaches "subsequent to detecting said operation, store a record of said operation associated with said first stored file, wherein said record includes a signature corresponding to

said first stored file" (see [page 95, column 2, paragraph 4] for the disclosure of recording all file access operations which must include detecting an access operation and storing a record about the operation; see [page 95, column 1, paragraph 1] wherein "a reference to the file object" is equivalent to Applicant's "signature corresponding to said first file").

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Richard et al. by the teaching of Vogels, since adding the feature of storing a record of an operation subsequent to detect it provide a way to trace file system activities. As a result, it helps to manage files in a file system more effectively.

As to claims 2, 9 and 16, these claims are rejected based on arguments given above for rejected claims 1, 8 and 15, respectively, and are similarly rejected including the following:

Richard et al. as modified teach:

"wherein said operation corresponds to a file create operation, a file delete operation, a file rename operation, or a file copy operation" (see [0104]).

As to claims 3, 10 and 17, these claims are rejected based on arguments given above for rejected claims 1, 8, and 15, respectively, and are similarly rejected including the following:

Richard et al. as modified teach:

"wherein said record is stored in a named stream corresponding to said first file, wherein said file system comprises a history stream, and wherein said file system is further configured to store an indication of said operation in said history stream in response to storing said record in said named stream" (see Richard et al., [0023], [0098] and [0112], and Vogels, [page 96, column

1, paragraph 2] wherein each record with a reference to the file object is equivalent to

Applicant's "named stream corresponding to said first file", the journal kept by each computer of

file history is equivalent to Applicant's "history stream"), and "code indicative of contents of

each file version" is equivalent to Applicant's "indication of said operation").

As to claims 4, 11 and 18, these claims are rejected based on arguments given above for

rejected claims 1, 8, and 15, respectively, and are similarly rejected including the following:·

Richard et al. as modified do not teach:

"wherein said record is stored in a database configured to stored a plurality of entries, and

wherein said database is further configured to respond to query of said plurality of entries".

Vogels teaches "wherein said record is stored in a database configured to stored a

plurality of entries, and wherein said database is further configured to respond to a query of said

plurality of entries" (see [page 95, column 2, paragraph 2] and [page 97, column 1, paragraphs 1-

3]).

It would have been obvious to a person having ordinary skill in the art at the time the

invention was made to have modified Richard et al. as modified by the teaching of Vogels, since

adding the feature of storing records in a database which responds to query provides an efficient

and effective access to information in records.

As to claims 5, 12 and 19, these claims are rejected based on arguments given above for

rejected claims 1, 8, and 15, respectively, and are similarly rejected including the following:

Richard et al. as modified teach:

"wherein said record is stored in extensible markup language (XML) format" (see [0094]).

As to claims 6 and 13, these claims are rejected based on arguments given above for rejected claims 1 and 8, respectively, and are similarly rejected including the following:

Richard et al. as modified teach:

"wherein said signature is computed according to the Message Digest 5 (MD5) algorithm" (see [0056]).

12.   Claims 7, 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richard et al. (Publication No US 2005/0015461) in view of Vogels ("File System Usage in Windows NT 4.0", ACM Press: 1999) as applied to claims 1, 8 and 15 respectively above, and further in view of Reynolds et al. (US Patent No 6,286,013).

Richard et al. as modified do not teach "wherein subsequent to storing said record, said file system configured to associate said record with a second file in response to detecting a second operation to modify the identity of said first file, wherein said second operation corresponds to a file copy operation specifying said first file as a copy source and said second file as a copy destination".

Reynolds et al. teach "wherein subsequent to storing said record, said file system configured to associate said record with a second file in response to detecting a second operation

to modify the identity of said first file, wherein said second operation corresponds to a file copy

operation specifying said first file as a copy source and said second file as a copy destination"

(see [column 12, lines 30-43] wherein packet of information is equivalent to Applicant's "said

record").

It would have been obvious to a person having ordinary skill in the art at the time the

invention was made to have modified Richard et al. by the teaching of Renolds et al., since

associating said record with a second file as disclosed provide a effective way to identify the

relationship between the two files.

13.   The prior art made of record and not relied upon is considered pertinent to Applicant's

disclosure.

Sinha (Publication No US 2004/0064488) teaches a method and system for performing a

real time optimized backup from a first computer storage device to a second or backup computer

storage device. The system includes a file system request monitor to monitor all opens, writes,

closes, deletes and renames and a file system monitor log to record the operations.

King et al. ("Backtracking Intrusions", ACM: 2003) teach the logging and tracking of file

attributes and filename create, delete and rename. Because files are identified by inode number

rather than by name, BackTracker tracks a file across rename operations.

Bolosky et al. (US Patent No 6,389,433) teach a method and system that operates as a background process automatically identify and merge duplicate files into a single instance files, wherein the duplicate files become independent links to the single instance files. The system includes a database for maintaining information about files and an Update Sequence Number (USN) log for dynamically recording file system activities.

Carter et al. (Publication No US 2003/0051026) teach a system that monitors and protects the security of computer networks by including monitoring the file systems.

Carter et al. (US Patent No 5,987,506) teach a file of the file system comprising streams of data and the file system metadata to describe the file.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong-Thao Cao whose telephone number is (571) 272-2735. The examiner can normally be reached on 8:30 AM - 5:00 PM (Mon - Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PTC

May 12, 2006

Primary Examiner
Art Unit 2167